

Date: Wednesday, 12/13/2006 2:46:53 PM
 User: Kim Johnston

Process Sheet

| | |
|---|--|
| Customer : CU-DAR001 Dart Helicopters Services | Drawing Name : TUBE ASSEMBLY |
| Job Number : 29930 | |
| Estimate Number : 10000 | |
| P.O. Number : <i>N/A</i> | Part Number : D2003011 |
| This Issue : 12/13/2006 S.O. No. : <i>N/A</i> | Drawing Number : <i>UNDER REVIEW</i> CB 06.12.13 |
| Prsht Rev. : NC | Project Number : <i>N/A</i> SEE NOTE ON DWG. |
| First Issue : <i>N/A</i> Type : SMALL / MED FAB | Drawing Revision : B |
| Previous Run : 28196 | Material : <i>N/A</i> |
| Written By : <i>[Signature]</i> | Due Date : 1/10/2007 Qty: 5 Um: Each |
| Checked & Approved By : <i>[Signature]</i> | |
| Comment : Est Rev. 8 99.11.11 Re-format EC | |

Additional Product

Job Number:



| Seq. #: | Machine Or Operation: | Description : |
|---------|-----------------------|---------------|
|---------|-----------------------|---------------|

| | | |
|-----|------------------|---------------------------|
| 1.0 | M6061T6T0375W035 | 6061-T6 Tube .375 x .035W |
|-----|------------------|---------------------------|



Comment: Qty.: 3.5200 f(s)/Unit Total: 17.6000 f(s)
 Cut: 32.38" long as per Dwg D2003
 Material: 3/8" A x 0.035" wall 6061-T6 tubing
 Batch: *M19051*

FF 07-01-16 5

| | | |
|-----|--------|--------------------------|
| 2.0 | M26506 | Firesleeve-crkl .375IDia |
|-----|--------|--------------------------|



Comment: Qty.: 3.0525 f(s)/Unit Total: 15.2625 f(s)
 Firesleeve-crkl .375IDia
 Cut: 33.31" long as per Dwg D2003 Material: M2650-6 Heat sleeve
 Batch: *M17521*

FF 07-01-16 5

| | | |
|-----|-----------|--------|
| 3.0 | MS208196D | Sleeve |
|-----|-----------|--------|



Comment: Qty.: 2.1000 Each(s)/Unit Total: 10.5000 Each(s)
 Pick:

| Qty | Part Number | Description | Batch |
|-----|-------------|-------------|----------------|
| 2 | MS20819-6D | Sleeve | <i>M103044</i> |

FF 07-01-16 5

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes ☒ No ☐ DQA: PD Date: 5/10/18
 QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

NOTE: Date & initial all entries

Date: Wednesday, 12/13/2006 2:46:53 PM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: TUBE ASSEMBLY

Job Number: 29930

Part Number: D2003011

Job Number:



Seq. #:

Machine Or Operation:

Description :

4.0

AN8186D

Nut



Comment: Qty.: 2.0000 Each(s)/Unit Total : 10.0000 Each(s)

Pick:

FF 07-01-16 5

Qty Part Number Description Batch

2 AN818-6D Nut

M17651 (1)

M103044 (5)

M103154 (4)

5.0

D2182

Heat Shrink



Comment: Qty.: 0.3750 f(s)/Unit Total : 1.8750 f(s)

Pick:

Qty Part Number Description Batch

1 D2182-045 Heat shrink

B15608 (4)

M3999 (1)

FF 07-01-16 5

6.0

SMALL FAB 1

SMALL & MEDIUM FAB RESOURCE 1



Comment: SMALL & MEDIUM FAB RESOURCE 1

1-Form tube as per template D2003-011

2-Assemble as per Dwg D2003

FF 07-01-16 5

7.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

07/01/17 (5)

8.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: 57195

07/01/17 (5)

9.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

07/01/18 (5)

Job Completion



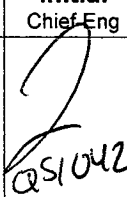

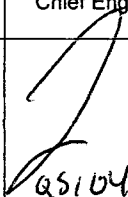
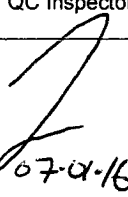
07/01/18

Dart Aerospace Ltd

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|----------|------|----------------------------------|--|---------------------------------|----------------|--|--|--|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
| 07-01-16 | 6 | 1 Tube broke at last bending |  | Destroy & Replace | 07-01-16 FF |  07/01/16 |  |  |
| 07-01-16 | 6 | 2 Tubbing angle bending was off | QSI042 | Destroy & Replace | 07-01-16 FF | | QSI042 | 07-01-16 |
| | | | | | | | | |
| | | | | | | | | |

NOTE: Date & initial all entries



| | | | |
|----------------------|-----------------------|--|------------------------|
| DESIGN <i>JA</i> | DRAWN BY <i>SP</i> | DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA | |
| CHECKED <i>JE</i> | APPROVED <i>JA</i> | DRAWING NO. D2003 | REV. B SHEET 1 OF 2 |
| DATE 99.06.08 | | TITLE 206 CABIN HEATER TUBE ASSEMBLIES NTS | |
| A | 90.04.09 | NEW ISSUE | |
| B | 99.06.08 | UPDATE PER TEMPLATES; ADD P/N'S; 0.025 TUBING NOW 0.035 (TSR1049) | |

RELEASED
49.06.08 KE

NOTE: FLAT LENGTHS MAYBE
INCORRECT. SEND TO BENT
TOOL. REPORT TO ENGINEERING

UNDER REVIEW

06.08.21 CB

same flat 06.12.13
lengths wrong

SHOP COPY
RETURN TO
ENGINEERING

UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 29930

| P/N | TEMPLATE | HEATSLEEVE LENGTH ¹ | CUT LENGTH OF TUBE ² | MS20819-8J SLEEVE | AN818-8J NUT | MS20819-8D SLEEVE | AN818-8D NUT | MS20819-6D SLEEVE | AN818-6D NUT | DESC. | MATERIAL ^{4/5/7} | VENDOR OR SPEC |
|-----------|-----------|-----------------------------------|------------------------------------|-------------------|--------------|-------------------|--------------|-------------------|--------------|------------|----------------------------|-------------------|
| D2003-001 | T2003-001 | 5.2 | 6.00 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | WW-T-700/6 |
| D2003-003 | T2003-003 | 7.3 | 8.12 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | WW-T-700/6 |
| D2003-005 | T2003-005 | 9.8 | 10.62 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | WW-T-700/6 |
| D2003-007 | T2003-007 | 20.0 | 19.63 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | WW-T-700/6 |
| D2003-009 | T2003-009 | 12.38 | 12.44 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | WW-T-700/6 |
| D2003-011 | T2003-011 | 33.31 | 32.38 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | WW-T-700/6 |
| D2003-013 | T2003-013 | 12.7 | 13.54 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | WW-T-700/6 |
| D2003-015 | T2003-015 | 17.2 | 18.00 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | WW-T-700/6 |
| D2003-017 | T2003-017 | 17.0 | 16.25 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | WW-T-700/6 |
| D2003-019 | T2003-019 | 9.8 | 10.62 | | | 2 | 2 | | | TUBE ASS'Y | 6061-T6 0.500 OD x 0.035 W | WW-T-700/6 |
| D2003-021 | T2003-021 | N/A | 2.25 | | | 2 | 2 | | | TUBE ASS'Y | 6061-T6 0.500 OD x 0.035 W | WW-T-700/6 |
| D2003-023 | T2003-023 | 4.5 | 5.33 | | | 2 | 2 | | | TUBE ASS'Y | 6061-T6 0.500 OD x 0.035 W | WW-T-700/6 |
| D2003-025 | T2003-025 | 9.8 | 10.60 | | | 2 | 2 | | | TUBE ASS'Y | 6061-T6 0.500 OD x 0.035 W | WW-T-700/6 |
| D2003-027 | T2003-027 | 7.25 | 7.38 | | | 2 | 2 | | | TUBE ASS'Y | 6061-T6 0.500 OD x 0.035 W | WW-T-700/6 |
| D2003-029 | T2003-029 | 17.2 | 18.00 | | | 2 | 2 | | | TUBE ASS'Y | 6061-T6 0.500 OD x 0.035 W | WW-T-700/6 |
| D2003-031 | T2003-031 | 14.6 | 15.38 | 2 | 2 | | | | | TUBE ASS'Y | CRES 0.500 OD x 0.035 W | AIISI 304 |
| D2003-033 | T2003-033 | 29.75 | 29.62 | 2 | 2 | | | | | TUBE ASS'Y | CRES 0.500 OD x 0.035 W | AIISI 304 |
| D2003-035 | T2003-035 | 24.7 | 27.00 | 2 | 2 | | | | | TUBE ASS'Y | CRES 0.500 OD x 0.035 W | AIISI 304 |
| D2003-037 | T2003-037 | 24.81 | 23.38 | 2 | 2 | | | | | TUBE ASS'Y | CRES 0.500 OD x 0.035 W | AIISI 304 |
| D2003-039 | T2003-039 | 34.0 | 34.00 | 2 | 2 | | | | | TUBE ASS'Y | CRES 0.500 OD x 0.035 W | AIISI 304 |
| D2003-041 | T2003-041 | 6.0 | 5.88 | 2 | 2 | | | | | TUBE ASS'Y | CRES 0.500 OD x 0.035 W | AIISI 304 |
| D2003-043 | T2003-043 | 11.7 | 10.75 | 2 | 2 | | | | | TUBE ASS'Y | CRES 0.500 OD x 0.035 W | AIISI 304 |
| D2003-045 | T2003-045 | 3.50 | 2.44 | 2 | 2 | | | | | TUBE ASS'Y | CRES 0.500 OD x 0.035 W | AIISI 304 |
| D2003-047 | T2003-047 | 5.56 | 5.56 | 2 | 2 | | | | | TUBE ASS'Y | CRES 0.500 OD x 0.035 W | AIISI 304 |
| D2003-049 | T2003-049 | 33.2 | 34.00 | 2 | 2 | | | | | TUBE ASS'Y | CRES 0.500 OD x 0.035 W | AIISI 304 |
| D2003-077 | T2003-077 | N/A | 6.25 | | | | | 1 | 1 | JET | 6061-T6 0.375 OD x 0.035 W | WW-T-700/6 |
| D2003-101 | T2003-101 | 13.25 | 13.13 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | WW-T-600/6 |
| D2003-103 | T2003-103 | 12.38 | 12.00 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | WW-T-600/6 |
| D2003-105 | T2003-105 | 10.75 | 10.60 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | WW-T-600/6 |
| D2003-107 | T2003-107 | 12.75 | 12.25 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | WW-T-600/6 |
| D2003-109 | T2003-109 | 8.25 | 8.125 | | | 2 | 2 | | | TUBE ASS'Y | 6061-T6 0.500 OD x 0.035 W | WW-T-600/6 |
| D2003-111 | T2003-111 | 4.75 | 4.625 | | | 2 | 2 | | | TUBE ASS'Y | 6061-T6 0.500 OD x 0.035 W | WW-T-600/6 |
| D2003-116 | T2003-116 | 4.0 | | | | | | | | HEATSLEEVE | M2650-20 CRINKLE-SOFT | STRATOFLEX |
| D2003-120 | T2003-120 | 4.0 | | | | | | | | HEATSLEEVE | M2650-16 CRINKLE-SOFT | STRATOFLEX |
| D2003-14 | T2003-14 | 4.0 | | | | | | | | HEATSLEEVE | M2650-14 CRINKLE-SOFT | STRATOFLEX |
| D2003-16 | T2003-16 | 4.0 | | | | | | | | HEATSLEEVE | M2650-16 CRINKLE-SOFT | STRATOFLEX |
| D2003-205 | T2003-205 | 9.75 | 9.60 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | WW-T-700/6 |
| D2003-207 | T2003-207 | 3.75 | 3.75 | | | | | 2 | 2 | TUBE ASS'Y | 6061-T6 0.375 OD x 0.035 W | WW-T-700/6 |



| | | | |
|-------------------------------|--------------------------------|---|------------------------|
| DESIGN <i>[Signature]</i> | DRAWN BY <i>[Signature]</i> | DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA | |
| CHECKED <i>[Signature]</i> | APPROVED <i>[Signature]</i> | DRAWING NO. D2003 | REV. 8 SHEET 2 OF 2 |
| DATE 99.06.08 | | TITLE 206 CABIN HEATER TUBE ASSEMBLIES NTS | |

RELEASED
99.06.08 KE

UNDER REVIEW

06.08.21 CB
*Some flat lengths
and wrong*

CB
06.12.13

Notes:

- (1) USE STRATOFLEX M2650-6 CRINKLE-SOFT HEATSLEEVE.
- (2) TUBING ASSEMBLIES TO BE CUT AND BENT IN ACCORDANCE WITH TEMPLATES.
- (3) TUBES TO BE FLARED 30° TO MATE WITH FITTINGS MADE TO MS33514.
- (4) ENSURE SEAMLESS TUBING IS USED.
- (5) INSTALL HEATSLEEVE OVER ALL TUBES WITH A DESIGNATED LENGTH OF HEATSLEEVE PER THE PARTS LIST.
- (6) 5052 (VVV-T-700/4) TUBING MAY BE SUBSTITUTED WHEN 6061 TUBING IS NOT AVAILABLE.
- (7) 0.049 WALL THICKNESS CRES TUBING MAY BE SUBSTITUTED WHEN 0.035 IS NOT AVAILABLE.
- (8) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 29930

